

DRAFT Solar Panel Installation Policy and Standards Local Districts in the City of St. Louis

Intent and Introduction

City Ordinance #64689 states that the Preservation Board shall be responsible for policy with respect to historic preservation in the City, and for establishing and articulating standards with respect to the minimum exterior appearance of improvements within Historic Districts, Landmarks and Landmark Sites in such a manner as to enhance property in the City, encourage property maintenance and promote development consistent with the City's Comprehensive Plan. This responsibility is the basis for this policy statement and thematic Standards for solar panel installations.

Recent applications for the installation of photovoltaic solar panels on properties in historic districts have indicated the lack of direction and nuance of some of the historic district standards on this type of project. Many of the standards do not address the installation of solar panels, and some that do have not been revised for several years and therefore may not reflect current thinking. In order to keep more current with the desires of property owners in historic districts to install solar panels, the City of St. Louis Preservation Board has considered such installations in the City and elsewhere, reviewed the existing historic district standards in the City, and has adopted this policy and these Standards to be used to supplement the historic district standards until such standards are revised.

The review of active and photo-voltaic solar panel installations requires the submittal of the following information:

- 1.** A site plan showing the location of the solar energy system on the building.
- 2.** An installation plan that depicts the building roof, roof elements (such as dormers), and the design of the solar energy system, including a section of the mount.
- 3.** Photographs that convey the visibility, or lack thereof, of the proposed installation by showing the area of the installation from the public

sidewalk and street areas in the vicinity, showing landscaping on the property and adjacent ones that would affect visibility, and improvements on the property in question and adjacent ones that affect the location of the solar system.

4. If new roofing material is proposed, the materials must be specified. The standards that follow relate to two approaches to the regulation of solar panels in the existing historic district standards:

1. No Visibility Required: An approach that requires solar panels to not be visible from the public areas of a historic district.
2. Visual Compatibility Required: An approach that allows some visibility of solar panels from public areas of a historic district while maintaining the character of the historic building and district.

These Solar Panel Installation Standards shall be used as per existing historic district standards and will expand on the pre-2012 standards. The Cultural Resources Office and Preservation Board shall use the “Visual Compatibility” Standards for historic districts that have that approach, for districts that provide no guidance and now wish to adopt that approach, and for districts for which the Preservation Board determines it is appropriate to use these standards. The “No Visibility Required” Standards shall be used for districts that have that approach and for City Landmarks and Landmark Sites. When the “Shall not be visible” standard cannot be met, the Board may use the Visual Compatibility Standard to consider an application.

The Cultural Resources Office will review applications filed in conjunction with the receipt of a building permit for a solar panel installation. Plan reviewers will use the appropriate Standards and approve applications that meet the Standards. Applications that have been denied because they do not meet the Standards can be appealed to the Preservation Board. The intent of these Standards – to maintain historic character of individual landmarks and the individual properties in and streetscapes of historic districts – shall guide decisions when a proposed installation does not meet every standard and when new materials or devices become available. The Preservation Board may determine that when a property owner cannot meet the applicable Standards, it may be appropriate to approve the application when all efforts have been made to minimize the visual presence of the installation.

New forms of solar collection devices and new materials shall be considered in terms of the guidance for minimal visual presence through size, shape, plane of position, and closeness to the roof.

Property owners should note that installations allowed under these Standards may not be approved for rehabilitation tax credit projects and should consult with the appropriate Missouri SHPO employee for compliance with those programs.

This policy and Standards shall be reviewed and revised as necessary, and reviewed no less than five years from date of adoption for confirmation or revision.

Definitions

Active System. A solar heating or cooling system that requires technological assistance to transport collected heat. Examples include solar hot water heaters and photovoltaic systems.

Accessory or Ancillary Structure. A subordinate building, detached and non-habitable, the use of which is incidental to that of the primary structure on a site, including garages, carriage houses, greenhouses, playhouses, etc.

Appendages. Steps, stoops, porches, and decks attached or immediately adjacent to the primary building.

Array. A set of photovoltaic modules or panels connected together that function as a single unit.

Awning. A roof-like shade that projects over a window or door.

City Landmark. Any natural site or Improvement (including any park, cemetery, street or right of way) that has a significant historical interest or value as part of the development, heritage or cultural characteristics of the City, state or nation, and has been designated as a Landmark pursuant to City Ordinance #64689 or pursuant to prior ordinance.

City Landmark Site. A parcel of land, or any part thereof, on which is situated a Landmark and any abutting parcel or part thereof used as and constituting a part of the premises on which a designated Landmark is situated, or which has been designated as a Landmark Site pursuant to the provisions of City Ordinance #64689 or pursuant to prior ordinance.

Dormer. A structure projecting from a sloping roof usually housing a window.

False Mansard roof. Projection at the street façade end of the roof that appears as one slope of a Mansard roof and having short returns on each side; this projection conceals the fact that the building has a flat roof edged with a parapet.

Flat roof. Roof that is essentially flat, typically having a slope of ¼ inch per foot to ½ inch per foot and edged with a masonry parapet.

Highly Visible. Seen in entirety and not at an oblique angle.

Historic District. A geographic area that has a significant historical interest or value as part of the development, heritage or cultural characteristics of the City, state or nation, and that has been designated as an historic district pursuant to the provisions of City Ordinance #64689 or pursuant to prior ordinance.

Installation Plan. A plan of the roof on which a solar panel array is proposed for installation, showing the plan of the roof, the location of the proposed array, sections that show the pitch of the roof, height of parapet walls, height of the mount, and height of the solar panels, as appropriate for the planned installation.

Mansard roof. A roof having a double slope on all four sides with the lower slope, which frequently incorporates dormer windows, being almost vertical and the upper slope almost horizontal.

Minimal Visual Presence. Effect created through the use of similar colors, textures, profiles, shapes, placement, and other means to minimize the presence of an object or element and allow it to be more of a background feature rather than one that calls attention to itself.

Mount. A method of attaching solar panels to the roof or ground.

Parapet. That portion of the walls of a building that project above the roof to edge a flat roof or rise in front of a sloped roof.

Photovoltaic (PV). Technology that converts sunlight (photons) into electrical energy through the use of silicon crystals or another semiconductor.

Roof Configuration. Arrangement of all historic roof elements, including roof slopes, chimneys, dormers, cupolas, decorative cresting, and any other features that might be present.

Roof Element. Historic feature at the roof of the building, including dormers, roof cresting, decorative or distinct eaves, cupolas, and other similar features.

Roofing Material. The visible, wearing surface of a roof, typically asphalt or wood shingles, slate shingles, clay tile panels or shingles.

Sloped roof. Roof with planes with a noticeably pitch, including gabled, hipped, and Mansard roof shapes.

Site Plan. A plan of the parcel on which the building to receive a solar panel installation is located, showing all buildings, paved areas, and other major features, as well as the roof plan and position of the proposed solar panel array on the roof.

Solar Panel. A general term for the smallest discrete unit of a system that captures solar energy, usually measuring several feet on each side. It may refer to an electrical device consisting of an array of connected solar cells which converts solar energy into electricity or a device that captures thermal solar energy for space heating or domestic hot water production. Solar energy devices are commonly referred to as photovoltaic (PV) panels.

Solar Shingle. Solar shingles, also called photovoltaic shingles, are solar cells designed to appear similar to conventional asphalt shingles and to be installed as shingles.

Visible. Visibility shall be determined as seen from the sidewalks and streets in the historic district when viewed approximately six feet above street grade. Fences and free-standing walls are considered permanent, and objects hidden by them shall not be considered visible.

Visual Compatibility. A condition achieved when the object to be considered compatible is designed and placed to have a minimal visual presence and does not adversely visually effect the historic character of the building.

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Visual Compatibility Required Standards

General

The underlying premise for these Standards is that visual compatibility can be achieved if there is some visibility of solar panels, but the installation is placed to avoid having an adverse visual effect on the historic character of the building and an historic district.

The installation of solar panels on some buildings will not be possible because the installation cannot meet these Standards for visual compatibility. Some installations may have to be smaller than preferred in order to meet the Standards.

The installation of solar panels on properties in historic districts shall be placed to minimize the presence of the feature, perhaps rather than where best located for maximum power generation.

These Standards use the term “visible” to mean visible from public sidewalks and streets in historic districts. Visibility from the private portions of adjacent properties and alleys is assumed and is not a condition to be avoided.

No installation shall be approved that includes:

1. Removal of historic roofing materials during the installation of solar panels.
2. Removal or otherwise altering a historic roof element and configuration – dormers, chimneys, or other features – to add solar panels.
3. Any installation procedure that will cause irreversible changes to historic features or materials.
4. Placing panels on top of slate or clay tile roofing.
5. More than one array of panels on a building that would be visible.
6. Placing panels in an array shape that does not echo that of the roof plane.

As buildings are three-dimensional forms that nearly always have one type of roofing present, these Standards do not allow the removal of distinctive roofing materials on any portion of the roof or the partial installation of new roofing material to reduce the contrast in color between proposed panels and the roofing material under them in order to achieve visual compatibility.

Any installation that does not meet these Standards in a minor way or due to the particular circumstances of the property shall be considered on a case-by-case basis to determine if the intent of the Standards can be met.

Solar Panel Installations on Sloped Roofs of Historic Buildings

1. Solar panels installed on a sloped roof shall not obscure any distinctive roof design elements or historic materials. Installations will not be possible on some sloped roofs with tile, slate or other distinctive covering or slopes with dormers.
2. Solar panels shall not be installed on the slope of any roof above the main, street-facing façade.
3. The installation of solar panels on a street-facing side façade of a corner building shall be carefully considered to determine the visual effect of the proposed installation.
4. Solar panel arrays in any location shall only be placed flush with and parallel to any sloped roof surface.
5. A solar panel array shall only consist of a single, simple rectangular shape when it has any degree of visibility.
6. It may be possible to place solar panels on the rear portion of a side-slope of a roof, depending on the design and materials of the roof and the visibility of that portion of the roof
 - a. The percentage of roof coverage must be considered; in some instances, more coverage reduces the visual presence of an installation and in others, a smaller percentage is more appropriate.
 - b. The presence of dormers and chimneys must also be considered.
7. Solar panels shall not be installed on any:
 - a. Mansard or false-mansard roof plane;
 - b. Visible dormer roof; and
 - c. Roof of a front or side porch or visible appendage.

Solar Panel Installations on Flat Roofs of Historic Buildings

1. Solar panels shall be placed for minimum visibility of the installation, set back from parapet walls; this requirement may limit the size of the installation.
2. Visibility of the top portions of the panels may be acceptable and shall be considered on a case-by-case basis.

Solar Panel Installations on Auxiliary Structures and Appendages

1. Solar panels may be placed on garages, other auxiliary buildings, and rear porches, and perhaps other appendages when the applicable requirements for the roof shape installations stated above are met and the garage or other building does not have a highly visible location.
2. Panels may be installed as awnings when visibility does not detract from the historic character of the building.

Solar Panel Ground Installations

1. A ground-mounted solar array shall be placed for minimum visibility from public areas in historic districts.
2. Visibility of a limited portion of a ground-mounted solar array may be acceptable and shall be considered on a case-by-case basis.

Solar Panel Installations on Non-Historic Buildings in Historic Districts

1. Installations on all non-historic single-family residential buildings, both existing and proposed, in historic districts shall be addressed as above by type of roof slope.
2. New buildings other than single-family residences that incorporate solar panels shall be considered on a case-by-case basis.
 - a. Consideration shall be given to how well integrated the panels are into the overall design, i.e., as shade devices or awnings, and how prominent they are.
 - b. Buildings where solar panels form portions of the exterior walls or dominate the façade or roofline of the building are not likely to be considered to be compatible new construction in a historic district.

Solar Shingles

1. Solar shingles shall meet the Standards required for sloped roof installations.
2. Installation of the product cannot cause the removal of historic slate or clay tile roofing material.
3. The product shall not be applied in any pattern, such as alternating strips with traditional roofing materials.

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No Visibility Required Standards

General

The underlying premise for these Standards is that visible solar panels are incompatible with maintaining the historic character of a property in an historic district or an individual landmark.

These Standards use the term “visible” to mean visible from public sidewalks and streets for both installations in historic districts and on individual landmarks and landmarks sites. Visibility from the private portions of adjacent properties is assumed and is not a condition to be avoided.

As buildings are three-dimensional forms where consistency in roofing materials is usually present, these Standards do not allow the removal of distinctive roofing materials on any portion of the roof or the partial installation of new roofing material to reduce the contrast in color between proposed panels and the roofing material under them.

Any installation that does not meet these Standards in a minor way or due to the particular circumstances of the property shall be considered on a case-by-case basis to determine if the intent of the Standards can be met.

No installation shall be approved that includes:

1. Removal of historic roofing materials during the installation of solar panels.
2. Removal or otherwise altering a historic roof element and configuration – dormers, chimneys, or other features – to add solar panels.
3. Any installation procedure that will cause irreversible changes to historic features or materials.

Solar Panel Installations on Sloped Roofs of Historic Buildings

1. Solar panel arrays installed on a sloped roof shall not cause any change to any distinctive roof design elements or historic materials.
2. Solar panel arrays shall not be installed on any visible slope of any roof.
3. Solar panel arrays in any location shall only be placed flush with and parallel to any sloped roof surface.

Solar Panel Installations on Flat Roofs of Historic Buildings

Solar panels shall be placed so as to be not visible.

Solar Panel Installations on Auxiliary Structures and Appendages

Solar panels may be placed on garages, other auxiliary structures, and rear porches and perhaps other appendages when they are not visible.

Solar Panel Ground Installations

A ground-mounted solar array shall be placed where they are not visible.

Solar Panel Installations on Non-Historic Buildings

Installations on all non-historic buildings in historic districts shall not be visible.

Solar Shingles

Solar shingles may be installed only on roof areas that are not visible and shall not cause the removal of any slate or clay tile roofing.